NSPS SEMI-ANNUAL REPORT (01/01/10-06/30/10)

Bridgeton Landfill, LLC

Bridgeton, Missouri

Installation ID Number 189-0312 Aquaterra Project Number 3788.10 July 2010

> Prepared For: Bridgeton Landfill, LLC 13570 St. Charles Rock Road Bridgeton, Missouri

> > **AQUATERRA**

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# NSPS SEMI-ANNUAL REPORT (01/01/10-06/30/10) BRIDGETON LANDFILL, LLC BRIDGETON, MISSOURI

#### 1.0 INTRODUCTION

In accordance with 10 CSR 10-5.490(7)(H) each landfill that has a calculated non-methane organic compound (NMOC) emission rate equal to or greater than 25 Megagrams per year and a capacity greater than 1.0 million Megagrams must submit a Semi-annual report summarizing the gas system operations to verify compliance with 10 CSR 10-5.490, Municipal Solid Waste Landfills. In addition to the local requirements, the municipal solid waste landfill's NMOC emissions exceed 50 Megagrams per year; therefore, the installation is subject to the requirements set forth in 40 CFR 60 Subpart WWW, New Source Performance Standards for Municipal Solid Waste Landfills (NSPS). This report serves as the semi-annual NSPS Report for the reporting period January 1, 2010 through June 30, 2010.

Documented in this report are exceedances of monitored parameters under 10 CSR 10-5.490 and 40 CFR 60 Subpart WWW. Information regarding operation of the landfill gas (LFG) extraction system was obtained from Bridgeton Landfill. The information regarding landfill surface monitoring was obtained from Herst and Associates. The wellfield monitoring data and the control device monitoring data was obtained from Monitoring Control and Compliance, Inc. (MCC) and Bridgeton Landfill.

Landfill gas at the Bridgeton Landfill is currently being collected from 85 gas extraction wells and associated header piping to a 3,500 standard cubic feet per minute (SCFM) enclosed flare for control. In addition to the above control system the facility currently has six (6) leachate extraction wells within waste to control odor. One of the six leachate extraction well was replaced during this reporting period. The site also contains one perimeter trench comprised of seven (7) wells and 54 perimeter gas extraction wells to address off-site migration.

#### 2.0 COMPLIANCE REPORTING

The following discusses each of the monitored parameters to be addressed in the semiannual report to comply with 10 CSR 10-5.490, Municipal Solid Waste Landfills.

#### 2.1 Exceedance of Monitoring of the Collection System

Regulation 10 CSR 10-5.490(7)(H)1 requires reporting of the value and length of time for exceedance of applicable parameters monitored under subsections (6)(A), (B), (C), and (D).

Appendix A contains results of wellfield monitoring conducted during the reporting period including the value and length of time for each exceedance of an applicable parameter. Per the site's standard operating procedure, immediate action is taken in instances that exceedances are monitored. The corrective action required within five days is taken the same day the exceedance is monitored. Subsequent monitoring occurs within 15 days of a monitored exceedance if same-day corrective action did not result in immediate compliance. This ensures compliance with applicable parameters has been obtained within the allowed timeframe.

Bridgeton Landfill received approval from the St. Louis County Department of Health to operate a number of wells with negative pressure only, in a letter dated May 29, 2007. The wells which were excluded from temperature and oxygen concentration limits include the perimeter trench wells (BrigIT-1 through BrigIT-6 and BrigT-56) as well as the perimeter gas extraction wells (BRIPEW01-60). However, it was determined that the perimeter well BRIPEW60 is located in waste; therefore, that well must comply with temperature, pressure and oxygen concentration limits. Additionally, the perimeter wells BRIPEW54 through 59 have been abandoned and disconnected from the gas system and therefore are no longer active wells.

#### 2.1.1 Gauge Pressure

Regulation 10 CSR 10-5.490(5)(A)3 requires the operation of the collection system with negative pressure at each wellhead. Any instance where non-negative pressure is monitored, the location and duration of the exceedance shall be documented.

Based on the wellfield data enclosed in Appendix A, instances of positive pressure were recorded during wellfield balancing. Action was taken within 5 days to correct the exceedances; the wells were re-monitored within 15 calendar days to verify compliance. Based on the wellfield monitoring data in Appendix A, no other instances of pressure above the regulatory level was recorded during the reporting period outside the allotted time frames.

#### 2.1.2 Temperature

Regulation 10 CSR 10-5.490(3)(B)2.B.(III)(b) requires the operation of each interior wellhead in the collection system with a landfill gas temperature less than 131°F. Any instance where a temperature is monitored equal to or in excess of 131°F, the location and duration of the exceedance shall be documented.

Bridgeton Landfill has additionally obtained approval for an alternative temperature request for specific gas extraction wells at the site. The St. Louis County Department of Health

approved the alternative temperature request in a letter dated December 15, 2008. The approval allows operation of the following interior wellheads with a landfill gas temperature less than or equal to 140°F: BRIEW12A, BRIGEW13, BRIGEW28, BRIGEW34, BRIGEW56, BRIGEW67, and BRIEW19A. Wells BRIGEW28 and BRIGEW56 were replaced in the previous reporting period with wells BRGEW28R and BRGEW56R respectively; the alternative temperature parameter does not apply to the new wells. As previously discussed, the perimeter trench wells (BrigIT-1 through BrigIT-6 and BrigT-56) and the perimeter gas extraction wells (BRIPEW01–53) have no temperature limitation upon them.

Instances of temperature exceedance were encountered during wellfield monitoring. The vacuum was immediately adjusted in each instance and each well was re-monitored within a few moments, and again within 15 days of the initial exceedance. Based on the wellfield monitoring data in Appendix A, other than the instance described below, no exceedance of temperature above the regulatory level for wells without an approved alternative temperature and no exceedance of temperature above the approved alternative temperature for the above-listed wells were recorded during the reporting period outside the allotted time frames.

Well BRIGEW13 exhibited high temperature during the May 10, 2010 monitoring event. Compliant temperature was not monitored as of the end of the first semi-annual reporting period of 2010 (January 1, 2010 – June 30, 2010). However, quarterly carbon monoxide (CO) sampling has resulted in monitored CO levels of well below 500 parts per million (ppm). First quarter sampling occurred on March 18, 2010 when no CO was detected (0 ppm); second quarter sampling was conducted on May 26, 2010 and a CO concentration of 250 ppm was monitored.

#### 2.1.3 Oxygen or Nitrogen Concentration

Regulation 10 CSR 10-5.490(3)(B)2.B.(III)(b) requires the operation of each interior wellhead in the collection system with either a nitrogen level less than 20 percent or an oxygen level less than five percent. Any instance where the nitrogen level is monitored and equals or exceeds 20 percent or the oxygen level equals or exceeds five percent, the location and duration of the exceedance shall be documented.

As previously discussed, the perimeter trench wells (BrigIT-1 through BrigIT-6 and BrigT-56) and the perimeter gas extraction wells (BRIPEW01–53) have no oxygen concentration limitation upon them.

Based on the wellfield data enclosed in Appendix A, instances of elevated oxygen levels were recorded during wellfield balancing. Action was taken within 5 days to correct the

exceedances; the wells were re-monitored within 15 calendar days to verify compliance. Based on the wellfield monitoring data in Appendix A, other than the instances described below, no exceedance of oxygen concentration above the regulatory level was recorded during the reporting period outside the allotted time frames.

During the May 24, 2010 monitoring event, well BRGEW16R exhibited excess oxygen concentration. Compliant oxygen concentration was not monitored as of the end of the first semi-annual reporting period(June 30, 2010). BRGEW16R was a replacement well for BRGEW16 and became operational on September 30, 2009. Based on a recent field investigation of this gas extraction well, there appears to be an air leak which will be addressed no later than 120 days from the May 24, 2010 monitoring event, or by September 21, 2010.

Well BRGEW62R exhibited excess oxygen concentration during the February 3, 2010 monitoring event. Compliant oxygen concentration was not monitored until the March 5, 2010 monitoring event, at which time all monitored parameters were in compliance for the well. During the April 13, 2010 monitoring event, well BRGEW62R again exhibited excess oxygen concentration. Compliant oxygen concentration was monitored during the June 8, 2010 monitoring event. During the June 23, 2010 monitoring event, well BRGEW62R once more exhibited excess oxygen concentration. Compliant oxygen concentration was not monitored again as of the end of the first semi-annual reporting period (June 30, 2010). BRGEW62R was a replacement well for BRGEW62 and became operational on September 11, 2009. This is in close proximity to BRGEW85 located down slope. It appears that BRGEW85 is influencing BRGEW62R.

Well BRGEW70R exhibited excess oxygen concentration during the April 13, 2010 monitoring event. Compliant oxygen concentration was not monitored until the June 8, 2010 monitoring event. BRGEW70R was a replacement well for BRGEW70 and became operational on September 11, 2009.

Well BRGEW72R exhibited excess oxygen concentration during the April 13, 2010 monitoring event. Compliant oxygen concentration was not monitored until the May 11, 2010 monitoring event. BRGEW72R was a replacement well for BRGEW72 and became operational on September 11, 2009.

Well BRIGEW85 exhibited excess oxygen concentration during the April 13, 2010 monitoring event. Compliant oxygen concentration was not monitored until the May 11, 2010 monitoring event. During the June 23, 2010 monitoring event, well BRIGEW85 exhibited excess oxygen concentration. Compliant oxygen concentration was not again

monitored as of the end of the first semi-annual reporting period of 2010, ending June 30, 2010).

Per 10 CSR 10-5.490(5)(A)3. the wellfield shall be expanded within the 120-day allotted timeframe from the initial exceedance or alternate timeframe approved by the director. The above mentioned gas extraction wells were installed and became operation in September or October 2009. The initial operation of a new extraction well often results in elevated oxygen due to air intrusion caused by the bentonite seal not being fully saturated. Each of the above gas extraction wells was investigated during the reporting period and BRGEW70R and BRGEW72R have since come back into compliance. Based on past gas collection system expansions at the Bridgeton Landfill, initial elevated levels of oxygen has consistently occurred; therefore, no expansion of the gas collection system is needed. The Bridgeton Landfill requests an additional 120-day extension of the following new wells impacted by air intrusion: BRGEW16R, BRGEW62R and BRIGEW85.

Well BRIGEW81 exhibited excess oxygen concentration during the January 12, 2010 monitoring event. Compliant oxygen concentration was not monitored until the February 19, 2010 monitoring event. The wellfield was to be expanded within the 120-day allotted timeframe from the initial exceedance date of January 12, 2010. After the initial exceedance, a QED pneumatic AP-series pump was installed to approximately three feet from the measured bottom of the gas extraction well. Since installation of the pump, BRIGEW81 has exhibited compliant oxygen concentrations.

Well BRLCS-6A exhibited excess oxygen concentration during the April 13, 2010 monitoring event. Compliant oxygen concentration was not again monitored as of the end of the first semi-annual reporting period of 2010 (January 1, 2010 – June 30, 2010). The elevated oxygen levels are likely due to the well's sump becoming non-operational as a leachate extraction point. Since the intent of this point is for leachate collection, and it is only secondarily connected to the gas system for odor control purposes, it is not an integral part of the gas collection system. Therefore BRLCS-6A will be disconnected from the gas collection system within the 120-day allotted timeframe from the initial exceedance date of April 13, 2010, or by August 11, 2010.

#### 2.1.4 Operations of Gas Collection System

Regulation 10 CSR 10-5.490(7)(H)4 states all periods when the collection system was not in operation in excess of five (5) days must be reported.

During the reporting period, no portion of the wellfield has been shut down for longer than five days.

#### 2.1.5 Surface Emissions Monitoring

Regulation 10 CSR 10-5.490(7)(H)5 states the location of each exceedance of the 500 parts per million (ppm) methane concentration as provided in (4)(D) and the concentration recorded at each location for which an exceedance was recorded in the previous month must be reported.

In 2007 Bridgeton Landfill reverted to annual surface emissions monitoring due to the landfill closing February 28, 2005 and no surface emissions monitoring exceedances in 2006. Herst and Associates, Inc. completed the regularly scheduled annual surface monitoring on April 28, 2010 and completed additional, non-routine surface monitoring on June 2, 2010. The non-routine surface monitoring was conducted in response to SLCDOH's request after the control device had been down for greater than five (5) days. No exceedances of the 500 ppm threshold were monitored during either event. Details of the surface emission monitoring may be found Appendix D.

#### 2.1.6 Landfill Gas System Installation

Regulation 10 CSR 10-5.490(7)(H)6 states the date of installation and the location of each well or collection system expansion added must be reported.

During the reporting period January 1, 2010 through June 30, 2010, the Bridgeton Landfill made modifications to the existing gas collection system. Construction activities during the months of January and February included the installation of leachate extraction well BRLCS-4B and associated header and lateral piping. Appendix C contains a gas system layout and gas extraction well construction diagram.

#### 2.2 Exceedance of Monitoring of the Control Device

#### 2.2.1 Record of Operation

Regulation 10 CSR 10-5.490(7)(H)2 states the description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow must be reported.

There were no periods between January 1, 2010 and June 30, 2010, when the LFG stream was bypassed from a control device. The gas collection system at the Bridgeton Landfill does not have a bypass line and the blower/flare system is designed to shutdown the entire system when the flare is inoperable.

## 2.2.2 Continual Operation of Control Device

Regulation 10 CSR 10-5.490(7)(H)3 states the description and duration of all periods when the control device was not operating for a period exceeding one (1) hour and length of time the control device was not operating must be reported.

Based on electronic records provided by Bridgeton Landfill the blower/flare system recorded twenty-seven (27) events where the control device was inoperable for periods in excess of one hour. Appendix B contains the date, duration and description for the periods the control device was inoperable in excess of one hour.

### 2.2.3 Average Combustion Temperature

Regulation 40 CFR 60.758(c)(1)(i) states for enclosed combustors all 3-hour periods of operation during which the average combustion temperature was more than 82°F below the average combustion temperature during the most recent performance test must be reported.

The most recent performance test was conducted on February 16 and 17, 2005. For the 3,500 SCFM enclosed flare the following compliance temperature was recorded.

**Table 1: Compliance Temperature for Enclosed Flare** 

Flare	Thermocouple	Compliance Temperature (°F)
West Flare	TE 202B	1488

Based on the electronic records provided by Bridgeton Landfill there were no events documented where the 3-hour average combustion temperature was below the compliance temperature in Table 3 for the west flare.

## **APPENDIX A**

**WELLFIELD MONITORING DATA** 



- 1. The following wells must maintain temperature less than or equal to 140°F per SLCDOH letter dated December 15, 2008: 12A, 13, 28, 34, 56, 67, 19A
- 2. The following wells must maintain negative pressure only per SLCDOH letter dated May 29, 2007: BrigIT1-6, BrigT-56, and BRIPEW01-60\*.
- 3. \* Well BRIPEW60 is in solid waste. Therefore, this well must comply with temperature, pressure and oxygen limits. Wells BRIPEW54-59 were decommissioned in May 2009.
- 4. All other wells must have:  $T < 131^{\circ}F$ , P < 0,  $O_2 < 5\%$ .

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW16R	1/4/2010 12:07	0	-0.1		102		
BRGEW16R	1/20/2010 11:15	4.2	·	-4	110		
BRGEW16R	1/20/2010 11:19	6.5		-2.8	105	10.7	
BRGEW16R	1/20/2010 11:22	4.6		-4.8	112	<1	day until compliant oxygen concentration achieved
BRGEW16R	2/3/2010 10:48	5.3		-5.7	102		A 200 (100 (100 (100 (100 (100 (100 (100
BRGEW16R	2/3/2010 10:51	4.7		-6.4	105	<1	day until compliant oxygen concentration achieved
BRGEW16R	2/17/2010 11:16	3.4		-6.3	105		
BRGEW16R	2/17/2010 11:18	3.3		-6.5	108		
BRGEW16R	3/4/2010 12:55	3.6		-6.8	108		
BRGEW16R	3/4/2010 12:57	3.6		-7.1	108		
BRGEW16R	3/17/2010 14:16	2.7		-6.8	110	·	
BRGEW16R	3/17/2010 14:17	2.8		-7.2	110		
BRGEW16R	4/12/2010 9:44	5.78	-7.9		109.3		
BRGEW16R	4/12/2010 9:46	8.12	-5.84		105.4		
BRGEW16R	4/27/2010 13:06	8.37	-2.64		101.1		
BRGEW16R	4/27/2010 13:07	12.08	-2.35		97.2		
BRGEW16R	5/10/2010 10:40	3.51	-0.35		97.4	15	days until compliant oxygen concentration achieved
BRGEW16R	5/10/2010 10:43	3.42	-0.14		90.9		
BRGEW16R	5/24/2010 10:25	12.42	-0.86		98.7		
BRGEW16R	5/24/2010 10:27	12.19	-0.86		99.1		1 1990 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
BRGEW16R	6/7/2010 10:49	13.77	-0.65		86.2		
BRGEW16R	6/7/2010 10:50	11.82	-0.64		86.3		
BRGEW16R	6/21/2010 13:09	20.97	-0.91		98.1		0.8200. 
BRGEW16R	6/21/2010 13:11	21	-0.9		98.1		well noncompliant with oxygen concentration at the end of the 1st half 2010
BRGEW17R	1/4/2010 12:39	1.1	4.1		110		
BRGEW17R	1/4/2010 12:48	0	-0.2		128	<1	day until compliant vacuum achieved
BRGEW17R	1/20/2010 11:27	0.1		-7.5	112		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)		Duration Until Compliance Was Achleved (days)	Notes
BRGEW17R	2/3/2010 10:55	0.2		-9.1	102		
BRGEW17R	2/3/2010 10:56	0.2		-8.5	100		
BRGEW17R	2/17/2010 11:23	0		-8.5	102		
BRGEW17R	2/17/2010 11:25	0		-8.2	102		
BRGEW17R	3/4/2010 13:01	0		-7.8	103		
BRGEW17R	3/17/2010 14:45	0.1		-9.8	100		
BRGEW17R	3/17/2010 14:47	0		-10.4	100		
BRGEW17R	4/12/2010 9:52	0.82	-8.03		104.5		318 2
BRGEW17R	4/12/2010 9:54	0.82	-6.23		104.7		
BRGEW17R	4/27/2010 13:12	0	-3.18		114		
BRGEW17R	4/27/2010 13:14	0	-2.89		114.3		
BRGEW17R	5/10/2010 10:50	0	-1.2		109		,
BRGEW17R	5/10/2010 10:53	0	-0.91		109.9		732 (2.3) 
BRGEW17R	5/24/2010 10:31	0	-1.18		110.9		
BRGEW17R	5/24/2010 10:34	0	-0.88		111.6		
BRGEW17R	6/7/2010 10:55	0	-0.59		117.3		
BRGEW17R	6/7/2010 10:57	0	-0.45		116.2		
BRGEW17R	6/21/2010 13:15	0	-0.79		121.5		
BRGEW17R	6/21/2010 13:17	0	-0.68		119.6		
BRGEW18R	1/4/2010 12:53	0	2		112		
BRGEW18R	1/4/2010 12:56	0	-0.2		122	<1	day until compliant vacuum achieved
BRGEW18R	1/20/2010 11:32	1.2	·	-5.9	118		2705 878
BRGEW18R	1/20/2010 11:35	1.3		<b>-</b> 5	115		2 - 400-00
BRGEW18R	2/3/2010 11:00	2.1		-6	115		
BRGEW18R	2/3/2010 11:02	2.1		-6.6	115		
BRGEW18R	2/17/2010 11:31	1.1		-7	115		
BRGEW18R	2/17/2010 11:33	1	0.000	-7.2	115		
BRGEW18R	3/4/2010 13:06	1.7		-6.9	115		
BRGEW18R	3/4/2010 13:07	1.7		-7.3	118		
BRGEW18R	3/17/2010 15:13	1.1		-6.6	118		
BRGEW18R	3/17/2010 15:15	0.9		-7.3	118		
BRGEW18R	4/12/2010 9:58	2.96	-8.33		119.7		
BRGEW18R	4/12/2010 10:00	4.41	-5.93		118.1		
BRGEW18R	4/27/2010 13:20	3.49	-1.75		122.1		
BRGEW18R	4/27/2010 13:22	2.27	-1.49		119.5		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (Inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW18R	5/10/2010 10:58	0	0.36		119.4		
BRGEW18R	5/10/2010 11:01	0	-0.19		126.9	<1	day until compliant vacuum achieved
BRGEW18R	5/24/2010 10:38	0	-0.32		124.1		
BRGEW18R	6/7/2010 11:01	0	-0.39		124.3		
BRGEW18R	6/21/2010 13:21	0.25	-0.57		126		
BRGEW18R	6/21/2010 13:24	0.02	-0.31		124.9		70
BRGEW22R	1/4/2010 13:30	0	2.4		19		
BRGEW22R	1/4/2010 13:34	0	2.4		19		
BRGEW22R	1/12/2010 14:41	1.2	-11.5		110	8	days until compliant vacuum achieved
BRGEW22R	1/12/2010 14:43	0.5	-9.2		102		
BRGEW22R	1/20/2010 12:20	0		-8.5	105		
BRGEW22R	1/20/2010 12:21	0		-8.1	105		
BRGEW22R	2/3/2010 11:21	0		-10.2	105		11.73.20.
BRGEW22R	2/3/2010 11:23	0		-9.2	105		
BRGEW22R	2/17/2010 12:06	0		-7.9	102		
BRGEW22R	2/17/2010 12:08	0	_	-7.1	102		
BRGEW22R	3/4/2010 13:31	0		-6.3	102		
BRGEW22R	3/4/2010 13:44	0		-5.3	105		
BRGEW22R	3/17/2010 15:53	0		-4.4	105		
BRGEW22R	4/12/2010 10:28	0	-4.51		111.1		
BRGEW22R	4/12/2010 10:30	0	-3.94		110.6		
BRGEW22R	4/27/2010 13:53	0	-2.55		108.1		
BRGEW22R	4/27/2010 13:55	0	-2.28		107.4		
BRGEW22R	5/10/2010 14:11	0	-0.49		106.1		100
BRGEW22R	5/10/2010 14:14	0	-0.18		104.5		
BRGEW22R	5/24/2010 10:58	0	-0.97		108.1		
BRGEW22R	5/24/2010 11:01	0	-0.83		107		
BRGEW22R	6/7/2010 11:19	0	-0.55		103.3		
BRGEW22R	6/21/2010 13:46	0	-0.73		106.7		
BRGEW26R	1/11/2010 14:12	0	0.2		82	<1	day until compliant vacuum achieved
BRGEW26R	1/11/2010 14:15	0	-0.1		128		
BRGEW26R	1/20/2010 12:36	0		-0.2	128		1000
BRGEW26R	2/4/2010 9:01	1.1		-1.4	126		
BRGEW26R	2/4/2010 9:02	1.2		-1.3	126		
BRGEW26R	2/17/2010 12:24	1.3		-1.3	125		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (Inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW26R	2/17/2010 12:25	1.3		-1.4	125		
BRGEW26R	3/4/2010 14:06	1.1		-1.4	128		
BRGEW26R	3/4/2010 14:08	1.1		-1.6	128		
BRGEW26R	3/17/2010 16:11	0.7		-1.6	.125		
BRGEW26R	3/17/2010 16:12	0.7		-1.8	125		
BRGEW26R	4/12/2010 10:47	2.06	-2.49		119.7		
BRGEW26R	4/12/2010 10:50	2.08	-1.93		120.2		
BRGEW26R	4/27/2010 14:14	2.15	-1.35		122.6		
BRGEW26R	4/27/2010 14:16	2.35	-1.2		121.2		
BRGEW26R	5/10/2010 14:41	0	0.24		125.1		
BRGEW26R	5/10/2010 14:42	0	-0.06		127.7	<1	day until compliant vacuum achieved
BRGEW26R	5/24/2010 11:24	2.73	-1.39		122.3		
BRGEW26R	5/24/2010 11:26	2.62	-1.13		122.2		′
BRGEW26R	6/7/2010 11:41	2.39	-0.79		125.6		
BRGEW26R	6/7/2010 11:43	2.39	-0.68		124.4		
BRGEW26R	6/21/2010 14:00	2.45	-0.65		128.8		
BRGEW26R	6/21/2010 14:02	2.47	-0.52		125.1		
BRGEW28R	1/11/2010 14:23	0.1	-0.8		129		
BRGEW28R	1/20/2010 12:46	0		-0.4	128		
BRGEW28R	2/4/2010 9:09	0.5		-1.7	128		
BRGEW28R	2/17/2010 13:26	0.4		-1.7	128		
BRGEW28R	3/5/2010 8:10	0.1		-2.2	130		
BRGEW28R	3/17/2010 16:24	0.2		-1.3	130		
BRGEW28R	4/12/2010 10:58	1.1	-2.02		129.9		
BRGEW28R	4/27/2010 14:29	1.49	-1.8		129.2		2000
BRGEW28R	4/27/2010 14:32	1.39	-1.51		128.4		
BRGEW28R	5/10/2010 14:49	0	-0.19		128.3		
BRGEW28R	5/24/2010 11:40	1.83	-1.12		129.7		
BRGEW28R	6/7/2010 12:59	1.51	-1.09		129.3		
BRGEW28R	6/21/2010 14:11	1.63	-1	′	129.9		
BRGEW28R	6/21/2010 14:13	1.33	-0.62		127.8		
BRGEW30R	1/11/2010 14:32	0	-2.6		125		
BRGEW30R	1/11/2010 14:34	0	-2.4		122		
BRGEW30R	1/20/2010 12:56	0		0	115		
BRGEW30R	1/20/2010 12:59	0		-0.2	130	<1	day until compliant vacuum achieved

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (Inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW30R	2/4/2010 9:22	2.4		-2.2	128		
BRGEW30R	2/4/2010 9:24	2.5	_	-2	125		
BRGEW30R	2/17/2010 13:37	3.1	_	-1.7	130		
BRGEW30R	2/17/2010 13:39	3.7		-2	130		
BRGEW30R	2/17/2010 13:42	3	_	-1.5	125		
BRGEW30R	3/5/2010 8:23	0	_	-2.1	118		
BRGEW30R	3/5/2010 8:26	0	_	-2.4	125		
BRGEW30R	3/17/2010 16:39	2		-1.5	130		
BRGEW30R	3/17/2010 16:41	1.8		-1.2	125		
BRGEW30R	4/12/2010 11:09	0	-1.68		124		5 192 h
BRGEW30R	4/27/2010 15:59	0.81	-1.34		125.1		9 (F-24)
BRGEW30R	5/10/2010 14:58	0	0.44		125.4		
BRGEW30R	5/10/2010 15:00	0	-0.15	·	136.3	<1	day until compliant vacuum achieved
BRGEW30R	5/10/2010 15:04	0	-0.01		134		
BRGEW30R	5/24/2010 12:48	3.01	-1.45		138	-	
BRGEW30R	5/24/2010 12:52	2.59	-0.82		130.8	14	days until compliant temperature achieved
BRGEW30R	6/7/2010 13:06	0.36	-0.69		125.8		
BRGEW30R	6/21/2010 14:23	0.03	-0.94		129.1		
BRGEW31R	1/11/2010 14:39	0	-1.1		115		
BRGEW31R	1/20/2010 13:04	0		-0.1	118		
BRGEW31R	2/4/2010 9:27	0		-2.2	115		
BRGEW31R	2/17/2010 13:45	0		-2.2	120		
BRGEW31R	3/5/2010 8:29	0		-3.1	120		
BRGEW31R	3/17/2010 16:49	0		-1.7	125		
BRGEW31R	3/17/2010 16:52	0		-2	125		
BRGEW31R	4/12/2010 11:13	0	-2.69		121.8		
BRGEW31R	4/12/2010 11:14	0	-2.58		121		
BRGEW31R	4/27/2010 16:02	0	-2.37		119.1		
BRGEW31R	5/10/2010 15:08	0	-0.5		117		
BRGEW31R	5/24/2010 12:56	0.02	-1.89		119.4		
BRGEW31R	6/7/2010 13:11	0	-1.81		118.9		
BRGEW31R	6/21/2010 14:26	0	-2.22		120.4		
BRGEW31R	6/21/2010 14:28	0	-1.93		119		
BRGEW32R	1/11/2010 14:42	0	-1.1		100		
BRGEW32R	1/20/2010 13:08	0		0.1	102		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)		Duration Until Compliance Was Achieved (days)	Notes
BRGEW32R	1/20/2010 13:10	0		-0.2	110	<1	day until compliant vacuum achieved
BRGEW32R	2/4/2010 9:30	0		-2.8	102		
BRGEW32R	2/17/2010 13:50	0	·	-2.9	102		
BRGEW32R	3/5/2010 8:33	0		-4	102		
BRGEW32R	3/17/2010 16:56	0		-2.3	105		
BRGEW32R	3/17/2010 16:58	0		-2.7	105		19.20
BRGEW32R	4/12/2010 11:19	0	-3.46		104.1		
BRGEW32R	4/27/2010 16:07	0	-3.28		102.2		
BRGEW32R	5/10/2010 15:12	0	-0.91		102.8		
BRGEW32R	5/24/2010 13:00	0 .	-2.83		103.1		
BRGEW32R	6/7/2010 13:14	0.07	-2.63		102.9		Control Service Control
BRGEW32R	6/21/2010 14:31	0	-3.16		105.1		
BRGEW33R	1/11/2010 14:47	0	-0.6		122		
BRGEW33R	1/20/2010 13:17	0		1.1	68		
BRGEW33R	1/20/2010 13:22	0		-0.3	138	<1	day until compliant vacuum achieved
BRGEW33R	1/20/2010 13:26	0		-0.1	138		
BRGEW33R	2/4/2010 9:34	0		-3	130	15	days until compliant temperature achieved
BRGEW33R	2/17/2010 13:53	0		-3.1	128		
BRGEW33R	2/17/2010 13:54	0		-2.8	128		
BRGEW33R	3/5/2010 8:36	0		-3.5	130		
BRGEW33R	3/5/2010 8:37	0		-3.2	128		
BRGEW33R	3/17/2010 17:02	0		-1	130		
BRGEW33R	3/17/2010 17:04	0.		-0.6	128		
BRGEW33R	4/12/2010 11:23	0.07	-1.12		90.9		
BRGEW33R	4/12/2010 11:25	0	-1.09		91.5		
BRGEW33R	4/27/2010 16:11	0.34	-0.81		83.9		
BRGEW33R	4/27/2010 16:13	0.15	-0.83		86.7		
BRGEW33R	5/10/2010 15:17	0	1.59		58.2		
BRGEW33R	5/10/2010 15:20	0	-0.04		130.8	<1	day until compliant vacuum achieved
BRGEW33R	5/24/2010 13:05	0	-2.26		137.3		
BRGEW33R	5/24/2010 13:07	0.24	-1.21		130.8	<1	day until compliant temperature achieved
BRGEW33R	6/7/2010 13:18	0.62	-0.65		124		
BRGEW33R	6/7/2010 13:20	0.22	-0.73		129.6		
BRGEW33R	6/21/2010 14:36	0	-0.92		138.7		
BRGEW33R	6/21/2010 14:39	0.58	-0.67		130.8	<1	day until compliant temperature achieved

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW41R	1/12/2010 9:35	0.5	-0.4		110		
BRGEW41R	1/20/2010 14:48	0		-0.2	110		
BRGEW41R	2/3/2010 13:10	0.8		-0.9	110		
BRGEW41R	2/3/2010 13:13	0.6		-0.7	105		
BRGEW41R	2/17/2010 14:46	0.1		-0.3	102		
BRGEW41R	3/5/2010 9:20	0.8		-0.7	98		
BRGEW41R	3/17/2010 17:51	0		-0.1	100		
BRGEW41R	4/13/2010 7:07	0.49	-1.05		104.7		197 W. 1995
BRGEW41R	4/13/2010 7:10	1.04	-1.05		102.6		
BRGEW41R	4/27/2010 16:51	0.13	-0.54		100.2		
BRGEW41R	5/10/2010 16:39	0	0.47		98.7		
BRGEW41R	5/10/2010 16:41	0	-0.01		112.6	<1	day until compliant vacuum achieved
BRGEW41R	5/24/2010 13:54	0.01	-1.09		114.5		
BRGEW41R	5/24/2010 13:56	0.06	-0.73		113.6		
BRGEW41R	6/7/2010 14:00	0.17	-0.61		113.8		
BRGEW41R	6/23/2010 8:34	0.14	-0.87		112.8		
BRGEW41R	6/23/2010 8:36	0.23	-0.79		112.1		
BRGEW42R	1/12/2010 9:38	0	-0.7		80		
BRGEW42R	1/20/2010 14:50	0		-0.5	85		
BRGEW42R	2/3/2010 13:24	0.7		-1.1	88		
BRGEW42R	2/3/2010 13:28	0.5		-0.8	82		
BRGEW42R	2/17/2010 14:49	0.2		-0.4	72		
BRGEW42R	3/5/2010 9:23	0.2		-0.7	80		
BRGEW42R	3/17/2010 17:53	0		-0.2	90		
BRGEW42R	4/13/2010 7:14	0 .	-0.98		109.5		
BRGEW42R	4/27/2010 16:56	0	-0.44		110.6		
BRGEW42R	5/10/2010 16:49	0	0.22		107.9	<1	day until compliant vacuum achieved
BRGEW42R	5/10/2010 16:52	0	-0.1		116		1.
BRGEW42R	5/24/2010 14:00	0	-0.61		120.2		
BRGEW42R	5/24/2010 14:02	0	-0.51	,	119.8		125 50 0
BRGEW42R	6/7/2010 14:04	0	-0.49		120		
BRGEW42R	6/23/2010 8:39	0.03	-0.7		118.9		
BRGEW42R	6/23/2010 8:41	0.01	-0.56		117.8		
BRGEW43R	1/12/2010 9:42	0	-0.3		115		
BRGEW43R	1/20/2010 14:53	0		0	120		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (Inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW43R	1/20/2010 14:55	0		-0.2	122	<1	day until compliant vacuum achieved
BRGEW43R	2/3/2010 13:43	0		-1	118		
BRGEW43R	2/3/2010 13:46	0		-0.9	112		
BRGEW43R	2/17/2010 15:55	0		-0.5	110		
BRGEW43R	3/5/2010 9:25	0	_	-1	112		
BRGEW43R	3/17/2010 17:57	0		-0.3	112		
BRGEW43R	3/17/2010 17:58	0		-0.4	120		
BRGEW43R	4/13/2010 7:18	0.02	-1.72		124.4		
BRGEW43R	4/13/2010 7:20	0	-1.7		124		
BRGEW43R	4/27/2010 17:01	0.08	-1.09		123.5		
BRGEW43R	4/27/2010 17:04	0.04	-0.98		120		
BRGEW43R	5/10/2010 16:57	0	0.19		115.2		
BRGEW43R	5/10/2010 16:59	0	-0.09		123.4	<1	day until compliant vacuum achieved
BRGEW43R	5/24/2010 14:10	0	-0.42		135.5		,
BRGEW43R	5/24/2010 14:13	0	-0.2		129.9	<1	day until compliant temperature achieved
BRGEW43R	6/7/2010 14:08	0	-0.32		128.7		
BRGEW43R	6/23/2010 8:46	0	-0.65		122.6		
BRGEW45R	1/12/2010 9:48	0	-1.4		102		
BRGEW45R	1/20/2010 15:03	0		-1.5	100		
BRGEW45R	1/20/2010 15:06	0		-2	102		
BRGEW45R	2/3/2010 14:01	0		-2.9	100		
BRGEW45R	2/3/2010 14:07	0		-2.2	100		
BRGEW45R	2/17/2010 16:03	0		-2	100		
BRGEW45R	3/5/2010 9:35	0		-2.4	100		
BRGEW45R	3/5/2010 9:37	0		-2.7	102	<u> </u>	
BRGEW45R	3/17/2010 18:06	0		-2.7	102		
BRGEW45R	3/17/2010 18:08	0		-3.2	102		
BRGEW45R	4/13/2010 7:31	0	-4.14		109.2		
BRGEW45R	4/27/2010 17:17	0	-3.69		110.4		
BRGEW45R	4/27/2010 17:21	0	-3.26		109.7		
BRGEW45R	5/10/2010 17:08	0	-2.05		109.9		
BRGEW45R	5/24/2010 14:21	0	-2.71		111.3		
BRGEW45R	6/7/2010 14:18	0.03	-2.89		111.1		
BRGEW45R	6/23/2010 8:55	0.03	-3.13		111.2		
BRGEW46R	1/12/2010 9:53	0	-0.1		45		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW46R	1/20/2010 15:10	0		-0.4	90.		
BRGEW46R	2/3/2010 14:20	0.4		-0.4	90		
BRGEW46R	2/3/2010 14:23	0.6		-0.3	85		
BRGEW46R	2/17/2010 16:07	20.9		-0.3	37		
BRGEW46R	2/17/2010 16:10	0.2		-0.7	68	<1	day until compliant oxygen concentration achieved
BRGEW46R	3/5/2010 9:41	0		-1.4	92		
BRGEW46R	3/5/2010 9:43	0		-1.6	95		
BRGEW46R	3/17/2010 18:13	0		-1.8	95		280002
BRGEW46R	3/17/2010 18:15	0		-2	98		
BRGEW46R	4/13/2010 7:35	0	-2.7		101.5		
BRGEW46R	4/13/2010 7:37	0	-2.44		100.6		
BRGEW46R	4/27/2010 17:25	0	-1.74		99.8	-	
BRGEW46R	4/27/2010 17:27	0	-1.58		98.9	6.	
BRGEW46R	5/10/2010 17:13	0	-0.69		100		7
BRGEW46R	5/24/2010 14:25	0	-0.52		103.2		
BRGEW46R	5/24/2010 14:26	0	-0.43		102.8		
BRGEW46R	6/7/2010 14:22	0.03	-0.65		102.5		
BRGEW46R	6/7/2010 14:23	0.03	-0.56		101.5		
BRGEW46R	6/23/2010 8:58	0.07	-0.65		99.2		- 1994 - 1995 -
BRGEW46R	6/23/2010 9:00	0.13	-0.57		99		
BRGEW47R	1/12/2010 9:57	0	-0.1		100		
BRGEW47R	1/20/2010 15:14	0		-0.1	118		
BRGEW47R	2/3/2010 14:28	0		-0.3	115		
BRGEW47R	2/17/2010 16:13	0		-0.4	112		
BRGEW47R	3/5/2010 9:47	0		-0.8	112		
BRGEW47R	3/5/2010 9:48	0		-1	115		11100
BRGEW47R	3/17/2010 18:23	0		-1	115		
BRGEW47R	4/13/2010 7:41	0	-1.71		112.8		
BRGEW47R	4/13/2010 7:43	0	-1.62		112.2		1
BRGEW47R	4/27/2010 17:31	0	-0.95		113.3		
BRGEW47R	4/27/2010 17:33	0	-0.79		111.5		
BRGEW47R	5/10/2010 17:18	0	0.26		111.1	<1	day until compliant vacuum achieved
BRGEW47R	5/10/2010 17:20	0	-0.01		116.5		
BRGEW47R	5/24/2010 14:35	0	-0.51	·	116.3		
BRGEW47R	5/24/2010 14:38	0	-0.33		116		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.

Device ID	Date Time	O <sub>2</sub> (Oxygen) (% by vol)	Initial Static Pressure (Inches H <sub>2</sub> O)	Adjusted Static Pressure (inches H <sub>2</sub> O)	Initial Temperature (Deg F)	Duration Until Compliance Was Achieved (days)	Notes
BRGEW47R	6/7/2010 14:29	0.01	-0.51		116.5		
BRGEW47R	6/23/2010 9:05	0	-0.71		116.1		
BRGEW47R	6/23/2010 9:07	0	-0.61		115.5		
BRGEW56R	1/12/2010 10:33	0	-0.6		102		
BRGEW56R	1/20/2010 15:50	0		-0.5	110		
BRGEW56R	2/3/2010 15:50	0		-1.3	100		
BRGEW56R	2/3/2010 15:51	0		-1	98		
BRGEW56R	2/19/2010 9:12	0		-0.4	78		
BRGEW56R	3/5/2010 10:28	0		-1.2	85		,
BRGEW56R	3/5/2010 10:30	0		-0.9	82		
BRGEW56R	3/18/2010 14:13	0		-1	100		
BRGEW56R	4/13/2010 8:27	0	-1.99		96.7		,
BRGEW56R	4/13/2010 8:30	0	-1.76		95.6		
BRGEW56R	4/28/2010 7:38	0	-1.45		90.9		
BRGEW56R	4/28/2010 7:41	0	-0.99		86.7		
BRGEW56R	5/11/2010 8:25	0	-0.93		75.3		
BRGEW56R	5/25/2010 7:39	0.01	-0.96		79.7		
BRGEW56R	6/7/2010 15:02	0	-0.77		92		
BRGEW56R	6/23/2010 10:02	0 -	-1.05		94.3		
BRGEW56R	6/23/2010 10:04	20.47	-0.74		93.2		
BRGEW56R	6/23/2010 10:06	0.18	-1.36		95.4	<1	day until compliant oxygen concentration achieved
BRGEW57R	1/12/2010 11:13	0	-2.6		105		
BRGEW57R	1/20/2010 16:41	0		-1.8	108		
BRGEW57R	1/20/2010 16:43	0		-1.6	105		
BRGEW57R	2/3/2010 16:42	0		-3.5	100		
BRGEW57R	2/22/2010 8:17	0		-2.8	98		
BRGEW57R	2/22/2010 8:19	0		-3.1	102		
BRGEW57R	3/5/2010 11:14	0		-3.6	106		
BRGEW57R	3/18/2010 14:57	0		-2.3	108		
BRGEW57R	4/13/2010 8:43	0.03	-2.18		120.7		
BRGEW57R	4/13/2010 8:45	0	-2.13		119.1		
BRGEW57R	4/28/2010 8:38	0	-1.67	· ·	101.9		
BRGEW57R	4/28/2010 8:40	0	-1.61		100.6		·
BRGEW57R	5/11/2010 9:24	0	-0.99		93.1		
BRGEW57R	5/25/2010 8:33	0	-1.48		87.6		

<sup>\*</sup>Standard operating procedure requires immediate action to be taken in instances that exceedances are monitored. Corrective action taken < 1 day.